Sai Nath University

Assignment For B.TECH in Electronics & Comm. Engineering 5st Sem.

The Assignment will consist of two parts, A and B. Part A will have 5 short answer questions(40-60 words) of 4 marks each. Part B will have 2 long answer questions of 10 marks each

All questions are compulsory.

These Assignments should be completed and submitted in written form by the student to his/her respective Faculty/ Examiners. Assignment Submission Dates are:

- Nov-17

List Of Suggested Questions

The list of suggested questions are for students to practice. Although optional, we recommend that students solve these questions, as they will help them in preparing for exams as well as in clearing the important concepts of the subject.

List of Practical and suggested practical's

The list of practical's should be done by the students in their Lab Sessions. These are the basic practical's, which each student should be able to do himself independently. While the list of suggested practical's are optional, but it is recommended that students should perform those practical so as to have a thorough knowledge of the subject

Education Delivery Schedule (EDS)

As per University Semester scheme, the minimum contact hours of each paper has been Divided into two hours theory and practical class.
The faculty will maintain this attendance paper wise for his/her batch.

Subject Code	Subject Name
BTEE 501	**Computer Organization**
BTEE -502	**Control System**
BTEE-503	**Digital Communication**
BTEE -504	**Semiconductor Devices**
BTEE 505	**Digital Image Processing**

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Cover page of Assignment

ID NUMBER …….

NAME …… ……

COURSE **B.Tech**……

STREAM E.C……

SEM 5^{ST} ……..

SUBJECT CODE ……..

SUBJECT NAME ……..

Assignments will be completed by the Student in his/her own handwriting.

BTECE 501
Computer Organization
Part A

1. What is a stack frame? Explain its use in subroutines.
2. What is an interrupt? Explain its concepts and the hardware used to realize it.
3. Calculate the average access time experienced by a processor if cache hit rate is 0.88. miss penalty is 0.015 milliseconds and cache access time is 10 micros seconds.
4. Explain the design of a 4-bit carry - look-ahead adder.
5. Draw the circuit diagram for binary division. Explain the non-restoring division algorithm with suitable example.

Part B

1. With a general block diagram, explain the functions of each of the processor registers.
2. Highlighting important technological features and advances, explain the evolution of computer over different generations.

BTECE 502
Control System

Part A

1. List the advantages of Closed loop System?
2. What is Block diagram? What are its basic components?
3. How to convert Mechanical system into a closed loop system.
4. What is a steady state error?
5. Give the specifications used in frequency domain analysis.

Part B

1. What are Constant M and N circles?
2. What is dominant pole?

BTECE-503
Digital Communication

Part A

1. Explain the logic diagram of a 3 x 8 Decoder.
2. Explain three Displacement Addressing mechanisms with the help of examples.
3. (23.125) 10 to Hexadecimal number.
4. (6B•28) 16 to Binary number .
5. What are the various fields of a simple instruction ? Explain with the help of a diagram.

Part B

1. Simplify the following function using K-map :
   F(A, B, C, D) = 1(2, 6, 10, 14)
   Draw the resultant logic diagram.
2. What are flip-flops ? Describe the construction of a master-slave flip-flop using R-S flip-flops.

BTECE-504
Semiconductor Devices

Part A

1. What are semiconductors? .Explain the operation of PN junction under forward bias condition with its characteristics.
2. What is the total current at the junction of pn junction diode?

3. Explain details about the switching characteristics on PN diode with neat Sketch.Write the application of pn diode . Write the application of pn diode
4. Why an ordinary transistor is called bipolar?

Part B

1. Why is BJT is called current controlled device? Define Early Effect.
2. Why h parameter model is important for BJT ? Define current amplification factor.

BTECE-505
Digital Image Processing
Part A

1. What are the differences between the books Digital Image Processing and Digital Image Processing Using MATLAB?
2. What are the differences between Structural Patterns and Morphological Structural Element?
3. What is procedure to implement highlight as a blinking operation?
4. How to enhance the quality of an image?
5. What is procedure to implement highlight as a blinking operation?

Part B

1. What is Rectification in image processing?
2. Explain the significance of V and inverted V curves.